DOCUMENT RESUME

ED 448 177 TM 032 138

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TITLE Conducting Survey Research via the Internet.

PUB DATE 2000-11-00

NOTE 13p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (28th, Bowling Green, KY, November 15-17, 2000).

PUB TYPE Guides - Non-Classroom (055) -- Speeches/Meeting Papers (150) -- Tests/Questionnaires (160)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS Databases; *Internet; *Research Methodology; *Surveys

IDENTIFIERS *Microsoft Access

ABSTRACT

This guide to creating a survey to be administered on the Internet used Microsoft Access as the database program for the illustration. Forty-four steps in constructing the survey, including the Common Gateway Interface that moves the data collected in e-mails directly to the database, are outlined. The example developed by researchers at the University of Alabama uses a server called "Bama." A sample survey is attached. (SLD)

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CONDUCTING SURVEY RESEARCH VIA THE INTERNET

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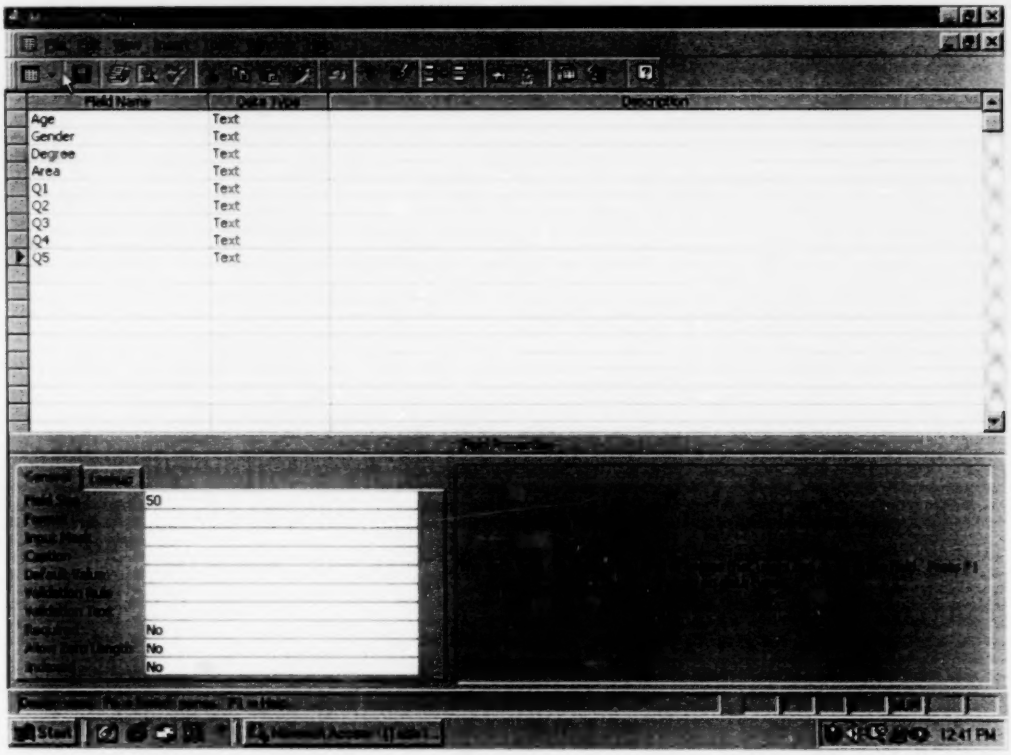
M. Rice

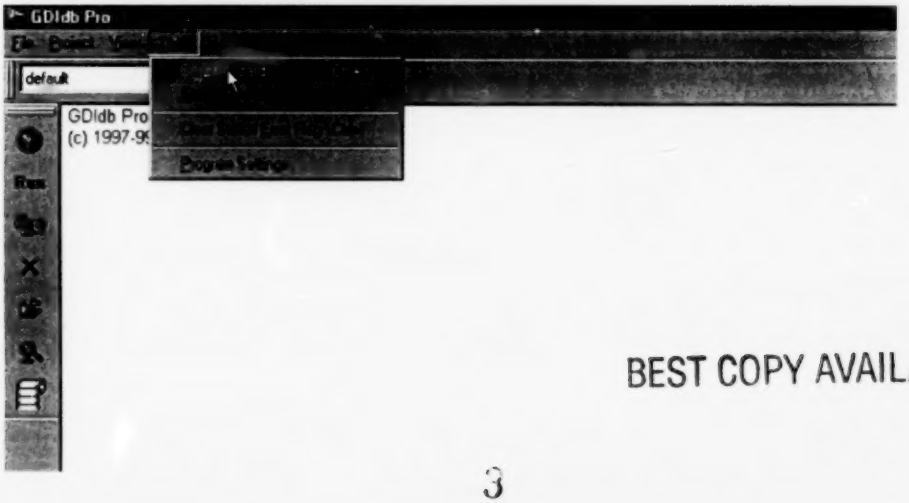
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Paper presented at the annual meeting of the Mid-South Educational Research Association, Bowling Green, Kentucky, November 15-17, 2000.

1. Develop the survey.
2. Use a database program (*Microsoft Access* is used for the examples) to create a database. Create a table that contains one field for each item on the survey. Make certain that all the fields are of the **Data Type** "Text" and the field names contain only letters and numbers, no spaces or symbols. Up to 255 characters are allowed per entry with the "Text" Data Type. You will need to determine the number of characters necessary to answer each of the survey items. If the first survey item requires a Yes or No response, then the field size would be 3. If a field will require more than 25 characters, the Data Type will need to be changed to "Memo" which will allow unlimited characters.



3. Once the table has been created, save it. The name of the table must have no spaces. Exit the database program.
4. The next step is to create the script that will move the data collected in e-mails directly to the database. This is called the Common Gateway Interface (CGI). Rather than programming the script using a language such as PERL, there are programs available that will handle the scripting. The program used by the authors of this paper for creating the CGI gateway is called GDIdb Pro and is available on the Internet from www.gdidb.com.
5. To create the script, start the *GDIdb Pro* program, and choose *Script Wizard* from the *Tools* menu.



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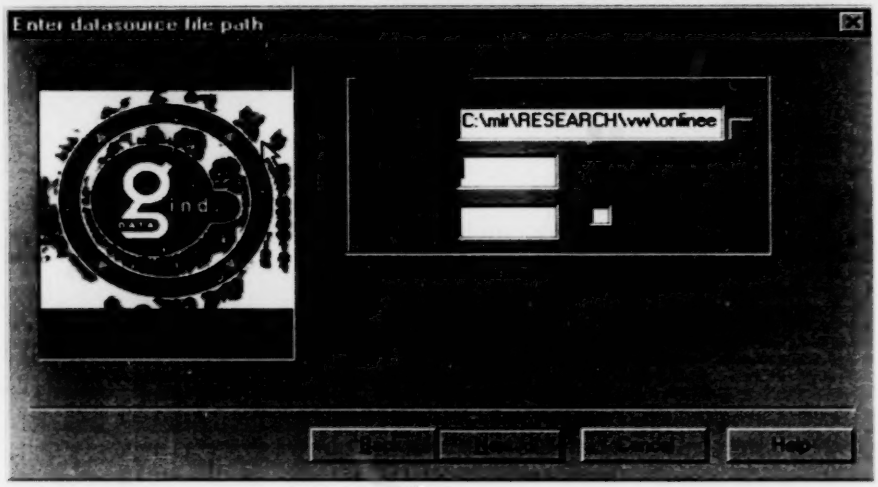
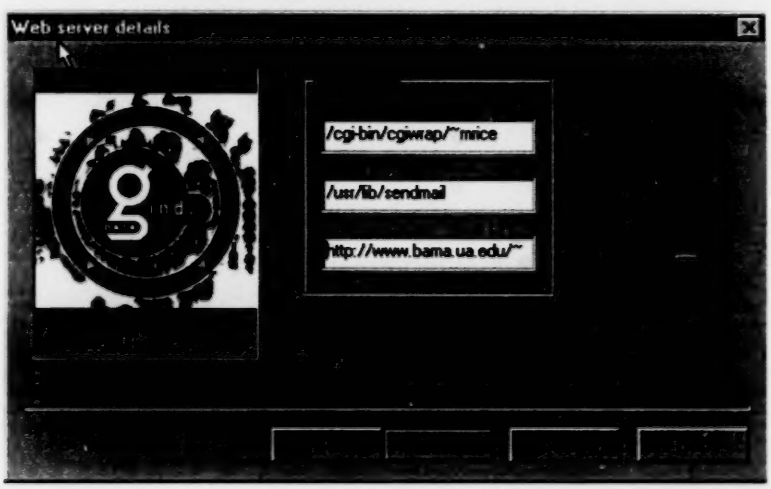
6. Select the "Web Form Data Retrieval" option.
7. In the next step, *GDIdb* will ask for the **Project Name**. Leave the default name, which is "webform." Even if you change the name at this point, *GDIdb* will still name the project "webform." You can change the name later if you wish.
8. *GDIdb* will next ask what type of source you have. Select "Database/Spreadsheet file."
9. Select your database or spreadsheet file name. You can search/browse for the database by clicking on the button that has three dots. Leave the Login and Password fields blank. Leave the "Select ODBC driver manually" blank as well.



10. After entering the database name in *GDIdb*, choose a datasource table. The list of tables and queries that appear should be from the database you created earlier. Just select the desired table. After choosing the datasource table, choose the fields you want to work with, which will typically be all of the fields.
NOTE: GDIdb can only handle 99 fields, so if you have more than 99 fields, GDIdb will list only the first 99. You will then have to use an HTML editor to add the remaining fields in the html form that will result from the GDIdb program. Once again make certain that:
    * In the database table, all fields are of **Data Type** "Text"and contain only letters and numbers.
    * For fields requiring over 255 characters, **Data Type** has been set to "Memo," allowing unlimited characters.
11. The next step involves ***Web server details***. The example uses a server called Bama.
    * This screen is where the path for the CGI script directory is entered. In the "**CGI directory**" box, type the path to your CGI script, which will be /cgi-bin/cgiwrap/~username. [The username is the name you use for your network account.] For example: /cgi-bin/cgiwrap/~mrice. The Bama server will intercept the CGI call using a program called "cgiwrap" and then route that CGI call to the /~mrice/cgi-bin actual directory, which is where the script will be.
    * Leave the second box, "**e-mail program**," as it is.
    * In the third box, enter a web page address for a web page that will tell the respondents that the form has been successfully submitted and the data accepted. For example, http://bama.ua.edu/~mrice/accepted.html. Remember that whenever you see "username" you will enter your own username.



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- The next step is to set the ***E-mail account details***. The e-mail address will be the e-mail address where you wish the survey responses to be sent.
  NOTE: The e-mail account for data collection needs to be a separate e-mail account from your normal account. The CGI script will NOT recognize the difference between regular e-mails and survey e-mails. The regular e-mails will be downloaded, the script will try to insert the information into the database, and you will get an error message.
- On the screen, type in the e-mail address where the surveys will be sent. The "POP3 Server" will be the server you are using. For this example it is "www.bama.ua.edu." The "POP3 Login" will be your userid for that server. For this example it is mrice. The "POP3 Password" is your account password. Make sure to type all this information accurately.

- Click on "Finish" to end the Wizard.
- *GDIdb* will open up a Readme file with some additional information/steps.

12. Use Windows "My Computer" or "Windows Explorer" to locate the files you have created. You will find them in: "C:\Program Files\GDIdbPro\Projects\Default."
    - You should find four files named webform (webform.html, webform.pl, webform.scp, and webform.txt).
      - Webform.html is the html form that will contain the survey and the file you will upload/post to the Internet.
      - Webform.pl is the PERL script that will be uploaded to the CGI directory of the server.
      - Webform.scp is the script used by GDIdb Pro to read the data from the assigned mailbox and transfer the data to the database.
      - Webform.txt contains readme information.
      - The first three files (webform.html, webform.pl, and webform.scp) can be moved to any directory and renamed. Just make certain to retain the appropriate extensions (i.e., .html, .pl, .scp).
13. Now finish the survey in an HTML editor.
14. Using the HTML editor, open the webform.html file (or if you changed the file name, to whatever you named the file). The authors recommend and use *CoffeeCup* (used in the examples), which can be found at www.coffeecup.com. This HTML editor is very easy to use to create a form with several types of data collection options available (i.e., radio buttons, drop down listbox, multi-line text fields, etc.).
15. Start *CoffeeCup* and from the **File** menu, select **Open**.
16. Browse to find your webform.html file.
17. The webform file will already contain the cgi information as well as all the fields from your database table.
18. Note in the webform.html file that the FORM ACTION command contains the file name "webform.pl." If you changed the name of your webform.pl file, then you need to modify the script to reflect that change. The file name needs to be changed in the line that says:

"<FORM ACTION="/cgi-bin/cgiwrap/~username/webform.pl">"

NOTE: Also be certain that the INPUT commands (<INPUT TYPE=TEXT NAME="Q5">) in the online CGI form contain field names that are identical (including upper or lower case) to the field names in the database.

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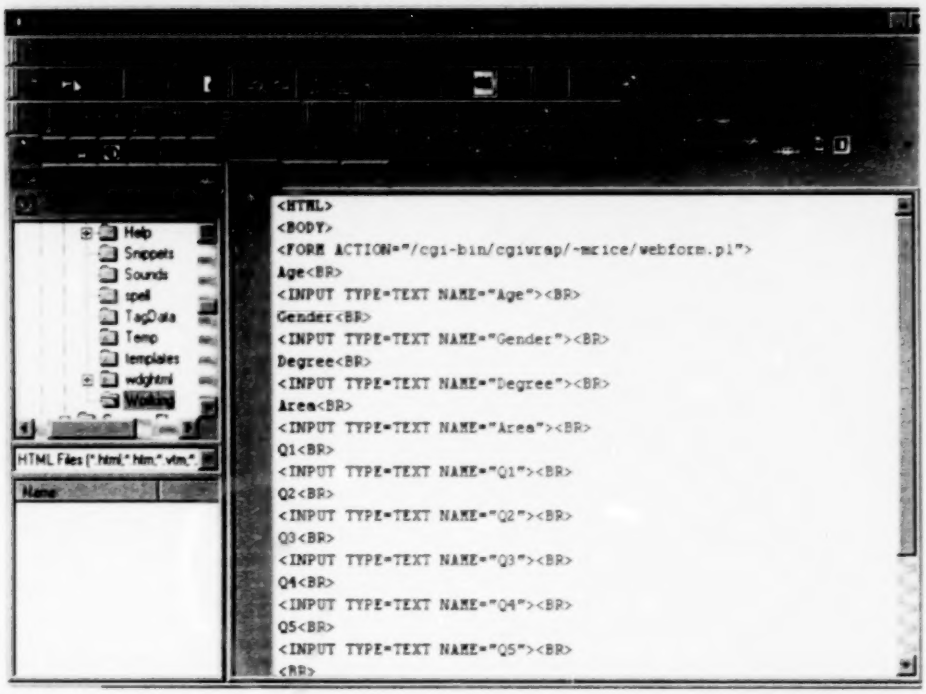
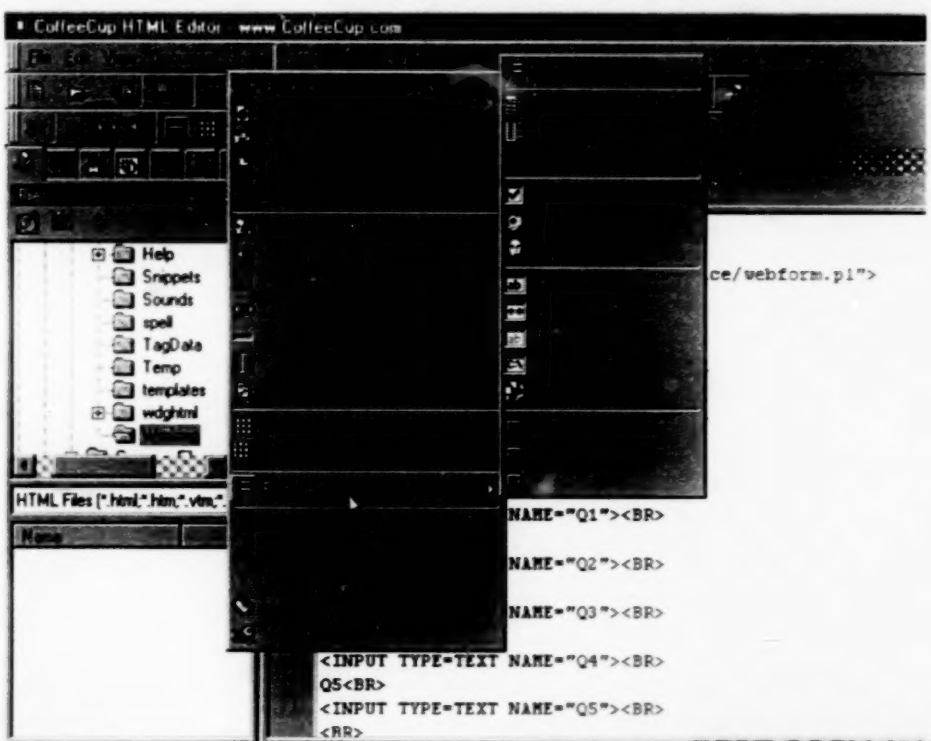


19. *GDIdb* has already automatically created text box survey items for the database fields in the HTML file.
20. If you wish to change the format of the items, place your cursor in front of the item you wish to change, delete the <INPUT TYPE = TEXT NAME = "Age"> command. Leave the line break <BR>.

```
Age<BR>
<INPUT TYPE=TEXT NAME="Age"><BR>
```

21. Select the **INSERT** menu. Select **Form Items** from the drop down menu. Then select the type of item you wish to use (i.e., Drop Down List, Listbox, etc.).



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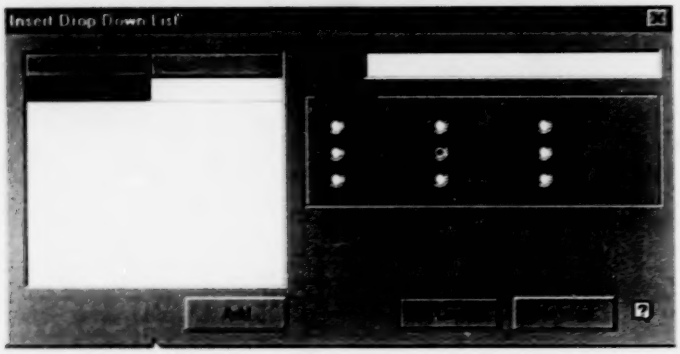
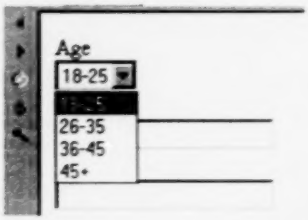
22. In this case, "Drop Down List" was selected. The "Drop Down List" dialog box appears.



23. For this item, **Age** would be the variable name. The Item column will contain the items you wish to have in the drop down box, in this case, age categories. The Value is the value that represents the item. In the Item box, type 18-25. In the value box, type 1. Click the Add button. In the second Item box, type 26-35, and in the value box, type 2. Click the Add button. Click the Cool Button.

```
<HTML>
<BODY>
<FORM ACTION="/cgi-bin/cgiwrap/~mrice/webform.pl">
Age<BR><select name="Age">
  <option value="1">18-25</option>
  <option value="2">26-35</option>
  <option value="3">36-45</option>
  <option value="">45+</option>
</select>
```

24. The script for the 'Age' item will now look like this.



25. Click the preview button to view the form and the drop down menu.
26. Complete the survey form using whichever type of form items you prefer.
27. Design a web page that will be your "data accepted" page and save it with the name you entered in the GDI Pro wizard.
28. Your ISP or network account must now be set to enable FTP to the server. You will need to check with your ISP or network manager on how to do this as each account will be different For this example on BAMA you would go to http://bama.ua.edu/~helpdesk/bama/shell.shtml and click on "Bama Shell Change Web Helper." This example uses a program called ***WS-FTP Pro*** available on the Internet. For BAMA, you will want to change your shell to "FTP Only" to be able to transfer your files to the Bama server.
29. Once you have accessed the BAMA server, open your FTP program.
    Type in BAMA for your Profile Name.
    Type in your Host Name/Address, which is: bama.ua.edu
    For Host Type: Leave it Automatic detect.
    Enter Your User ID.
    Enter Your Password.
    Click Apply, then click OK.

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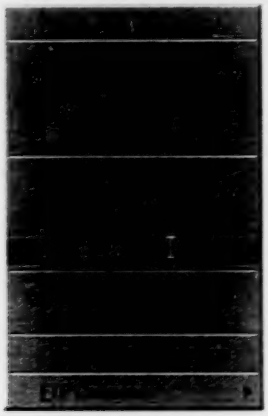
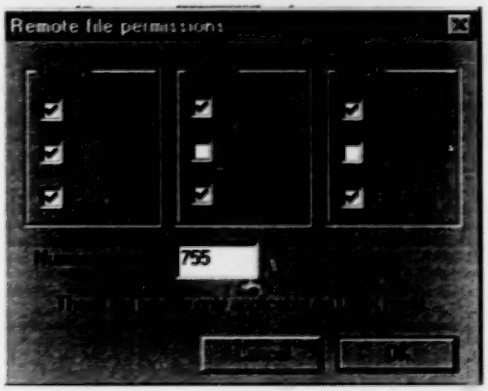
30. Once you are in the FTP program, on the left side of the program window you will see a directory listing from your computer and on the right side, the Bama server.
31. Click on the right window, and then create a folder named "cgi-bin." To create that folder, Click on MkDir. You will get the following prompt:
32. Type: cgi-bin and then click OK.

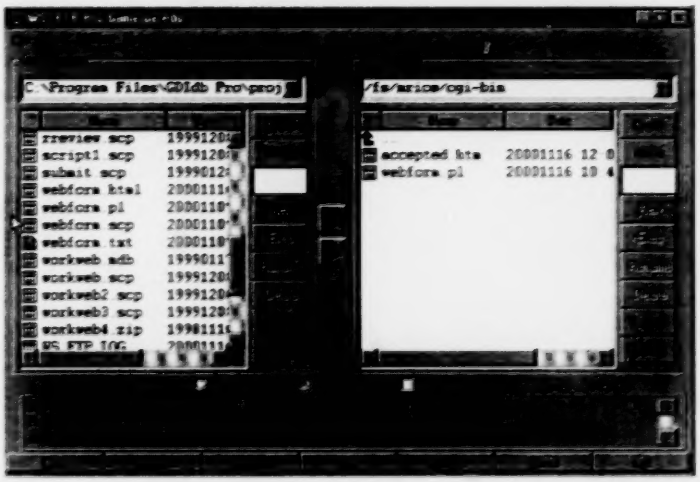
33. Right click on the cgi-bin directory and the following prompt will appear. Click on chmod (Unix).



34. Now you will set the permissions or attributes to this directory. Set the file permissions as shown below. If you use an FTP program like ***CUTE_FTP*** or ***WS-FTP Pro*** the manual command would be 755. This number or the Remote File Permissions above will set the appropriate permissions (chmod) for the scripts to work properly.



35. In the left window, go to the directory where you have your files saved, the ones you created with *GDIdb Pro*.
36. In the right window, double-click on the public_html folder to open it. Then double-click in the left window on the name of your HTML file in order to transfer it. For example: webform.html. You should be able to see the file in the right window. Also transfer the data accepted HTML file you created.



37. Click on the up-arrow with the two dots that is located in the upper left corner of the right window ⬆ . . . This will take you back to the root directory. Now double-click on the cgi-bin directory. Once there, double-click in the left window on the

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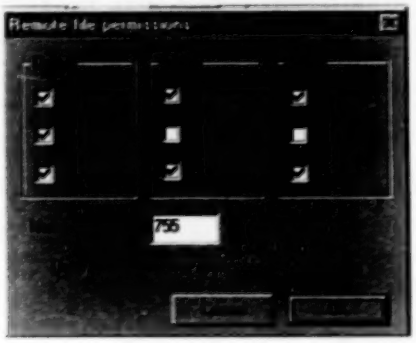
CGI script file to transfer it to the Bama server. For example: webform.pl.

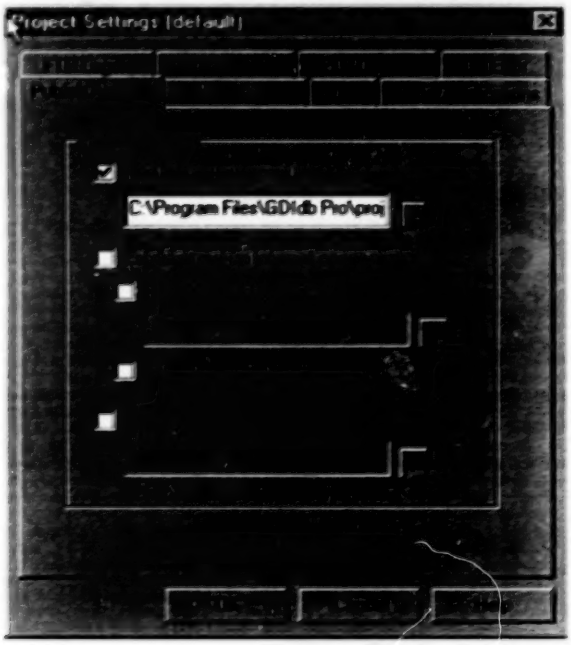
38. Right-click on the file name you just transferred to the cgi-bin directory and select "Change File Attributes." Type the same attributes that you used in the cgi-bin directory, or 755 in the Manual box for programs such as *CUTE_FTP* or *WS-FTP*.



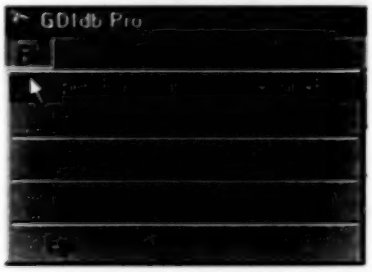
39. Your files are now transferred to the web. You can open your web browser and check to see if everything works. To check, go to your survey web page (i.e., http://bama.ua.edu/~username/webform.html). **If you changed the name of your file from webform to something else, make sure you type that name instead.**

40. Fill in the form with any data you wish and click on the **Submit** button. You should see your data accept file you created on the screen.

41. Now test your *GDIdb* script. Look for the project name you created under *GDIdb Pro* and get ready to run the script. First you need to set the Project settings. For this, click on **Project** and then on **Project Settings**. Under **Publish Actions** and **Run this off-line script file**, search for your **webform.scp, or the name you gave that file. Then click** on OK.



42. Make sure you are connected to the Internet before you run the script. Run the script by clicking on the **publish** button, which is the "world" on the left side. **OR . . . You can Open *GDIdb* and Click on File**. Then select **Open/Run Script** and select the script you want to run.



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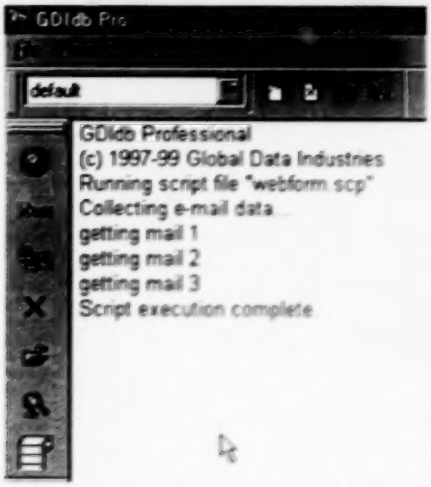
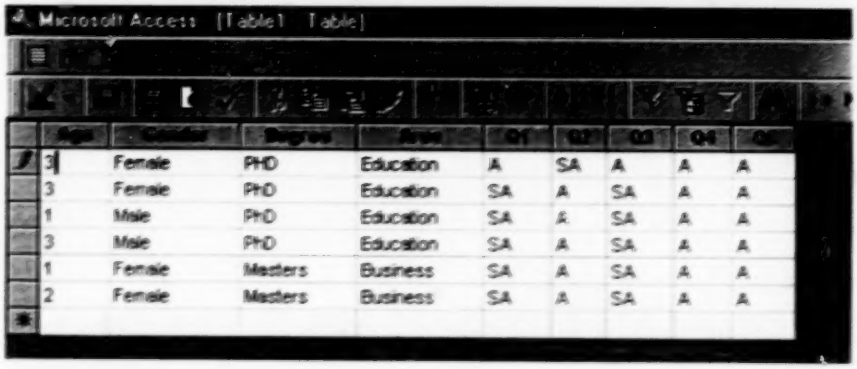
43. You should get a message back saying "Collecting e-mail data." Then a "Script execution complete" message.



44. Now, open your Microsoft Access database, and you should see the data that were submitted from the web form.


Microsoft Access [Table] Table]
3 Female PhD Education A SA A A A
3 Female PhD Education SA A SA A A
1 Male PhD Education SA A SA A A
3 Male PhD Education SA A SA A A
1 Female Masters Business SA A SA A A
2 Female Masters Business SA A SA A A

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Instructions: Please select the best response for each item.

1. Select your age.

18-25

2. Select your gender.

- ○ Female
- ◉ Male

3. Select the degree on which you are currently working.

Non-Degree

4. Type in the area (i.e., Education, Business) in which you are earning your degree. If you are non-degree, type in none.

5. Online courses require more time than traditional courses.

Strongly Agree
Agree
Disagree
Strongly Disagree

6. I spend more time communicating with my instructor in online courses than in traditional courses.

Strongly Disagree

7. Online courses take more time than traditional courses.

Strongly Disagree

8. I prefer taking online courses more than traditional courses.

Strongly Disagree

9. If possible, I would prefer to complete my degree online.

Strongly Disagree

Submit Query

```
<font size="2" face="Times New Roman"><HTML>
<BODY>
<FORM ACTION="/cgi-bin/cgiwrap/~mrice/webform.pl">

<b>Instructions:  Please select the best response for each item.</b><br>
<br>

1.  Select your age.<BR>
<select name="Age">
  <option value="1">18-25</option>
  <option value="2">26-35</option>
  <option value="3">36-45</option>
  <option value="">45+</option>
</select>
<BR><br>

2.  Select your gender.<BR>
<input name="Gender" type="radio" value="1">Female<br>
<input name="Gender" type="radio" checked value="2">Male<br>
<BR>

3.  Select the degree on which you are currently working.<BR>
<select name="Degree">
  <option value="1">Masters</option>
  <option value="2">EdD</option>
  <option value="3">PhD</option>
  <option selected value="4">Non-Degree</option>
</select><BR><br>

4.  Type in the area (i.e., Education, Business) in which you are earning your
degree. If you are non-degree, type in none.<BR>
<INPUT TYPE=TEXT NAME="Area"><BR><br>

5.  Online courses require more time than traditional courses.<BR><br>
<select name="Q1" size="5">
  <option value="SA">Strongly Agree</option>
  <option value="A">Agree</option>
  <option value="D">Disagree</option>
  <option selected value="">Strongly Disagree</option>
  <option value=""></option>
</select><BR><br>

6.  I spend more time communicating with my instructor in online courses than in
traditional courses.<BR>
<select name="Q2">
  <option value="SA">Strongly Agree</option>
  <option value="A">Agree</option>
  <option value="D">Disagree</option>
  <option selected value="SD">Strongly Disagree</option>
</select><BR><br>

7.  Online courses take more time than traditional courses.<BR><select name="Q3">
  <option value="SA">Strongly Agree</option>
  <option value="A">Agree</option>
  <option value="D">Disagree</option>
  <option selected value="SD">Strongly Disagree</option>
</select>
<BR><br>

8.  I prefer taking online courses more than traditional courses.<BR>
```

```
59:   <select name="Q4">
60:     <option value="SA">Strongly Agree</option>
61:     <option value="A">Agree</option>
62:     <option value="D">Disagree</option>
63:     <option selected value="SD">Strongly Disagree</option>
64:   </select><BR><br>
65:
66:   9.  If possible, I would prefer to complete my degree online.<BR>
67:   <select name="Q4">
68:     <option value="SA">Strongly Agree</option>
69:     <option value="A">Agree</option>
70:     <option value="D">Disagree</option>
71:     <option selected value="SD">Strongly Disagree</option>
72:   </select><BR>
73:   <BR>
74:   <INPUT TYPE=SUBMIT>
75:   </FORM>
76:   </HTML>
77:   </BODY>
78:   </font>
```